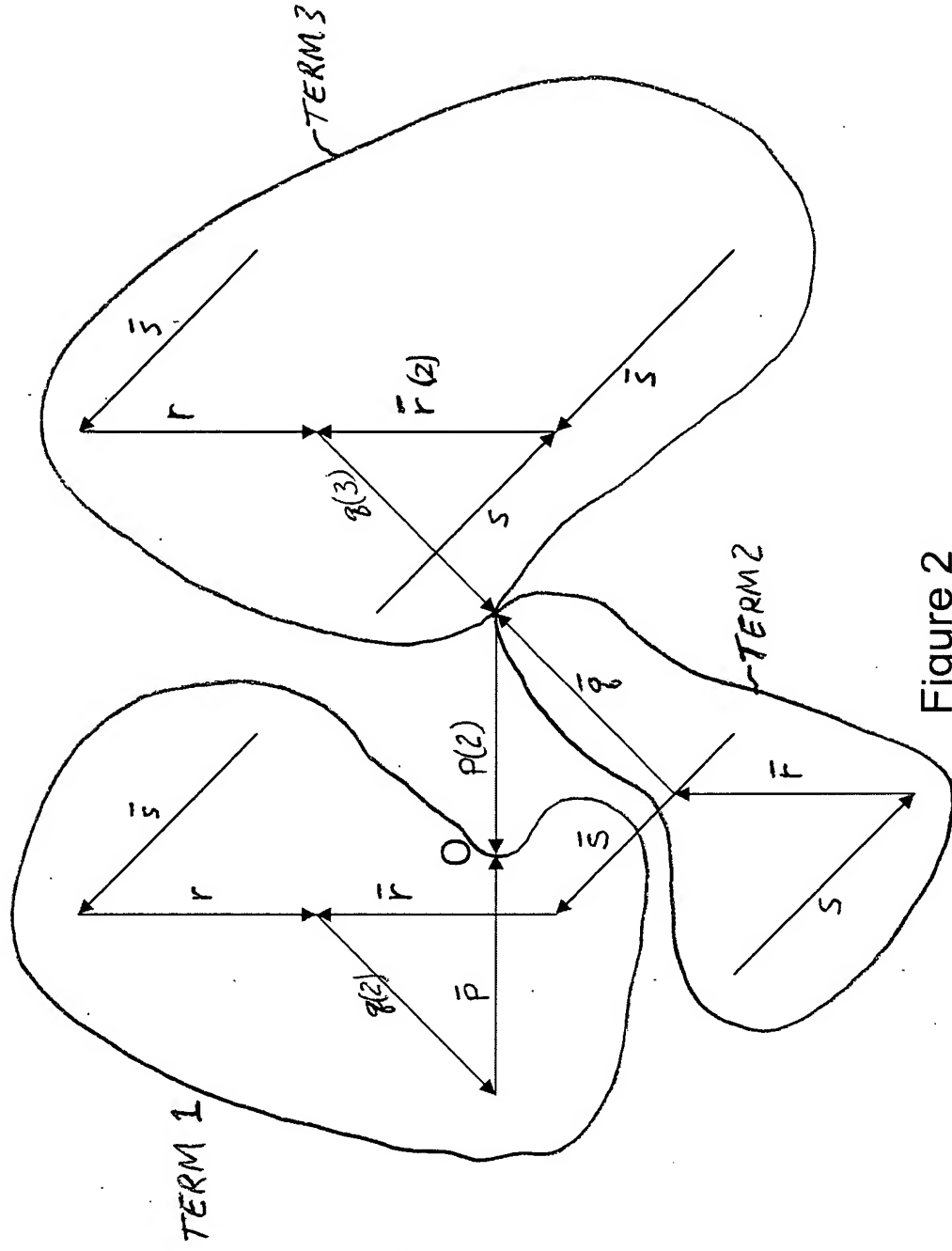


Figure 1

# Step 1

$$[-p(qr-s \vee q-r-s)] \vee p-q-rs \vee \{p[q(r-s \vee -r-s \vee -rs)]\}$$

Represent Schema in vector notation



## Step 2

$[-p(qr-s \vee q-r-s)] \vee p-q-rs \vee \{p[q(r-s \vee -r-s) \vee -rs]\}$

2. Find greatest symmetry about an opposed couple

$p, -p$

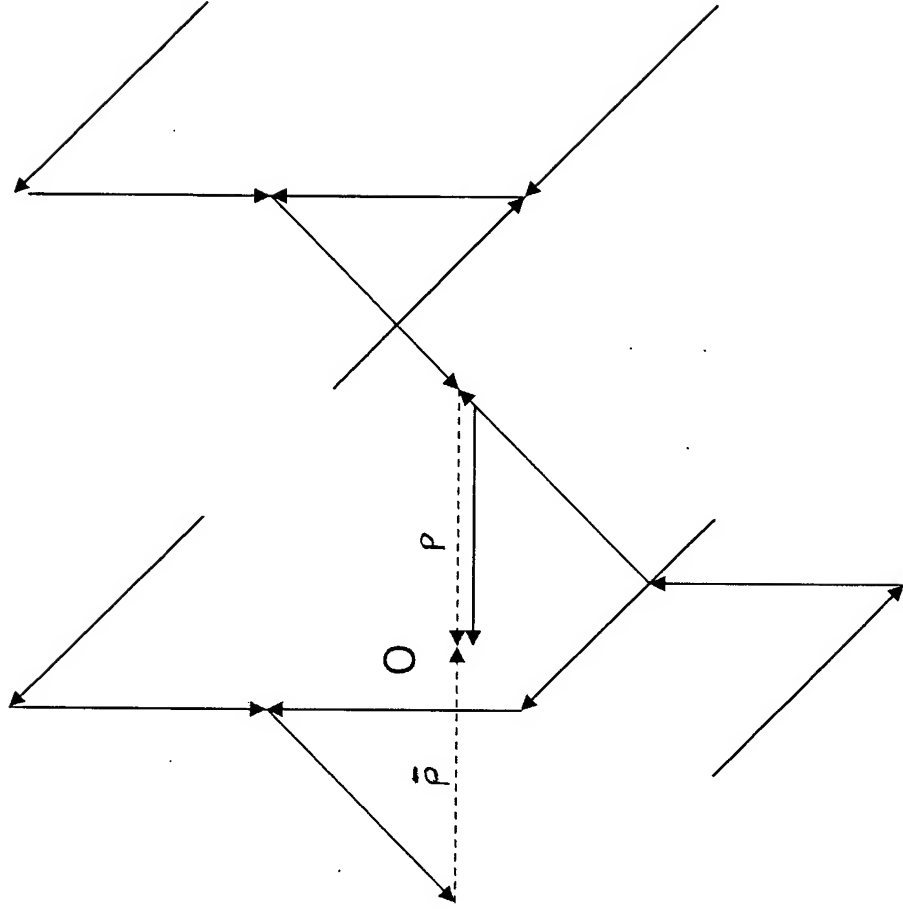


Figure 3

### Step 3

$$[p(qr-s \vee q-r-s)] \vee p-q-rs \vee \{p[q(r-s \vee -r-s) \vee -rs]\}$$

3. Delete the couple, superimpose the symmetries, and delete resulting redundancies. Keep multiple paths (e.g. pq-rs) open.

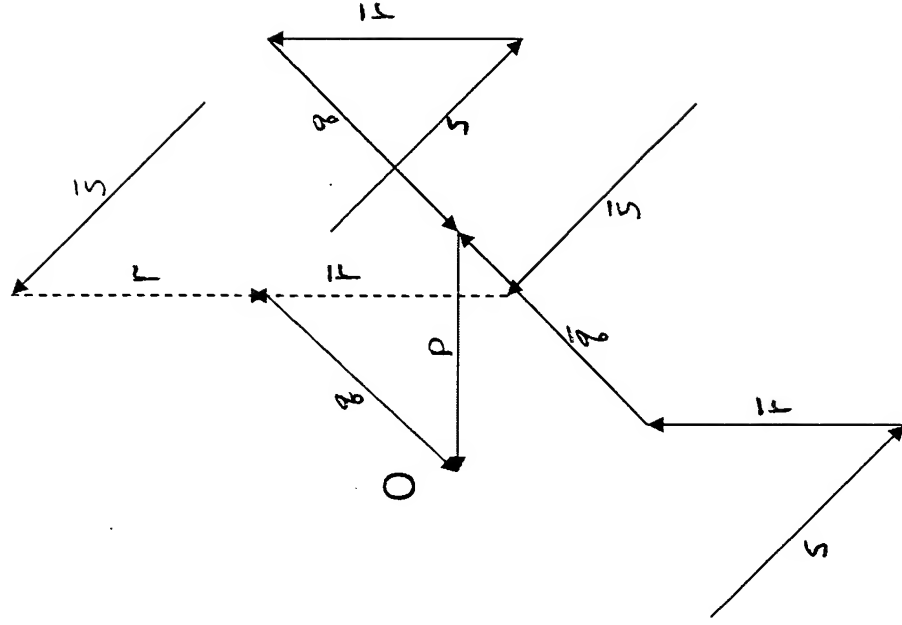


Figure 4

# Step 4

$[-p(qr-s \vee q-r-s)] \vee p-q-rs \vee \{p[q(r-s \vee -r-s \vee -rs)]\}$

Repeat Steps 2 and 3 for the  $r, -r$  couple

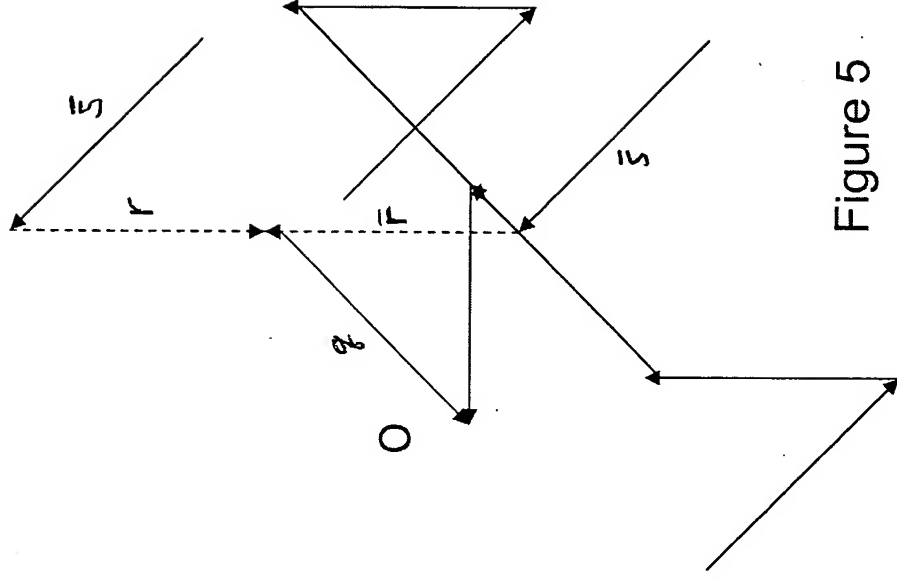


Figure 5

# Results of Step 4

$$[-p(qr-s \vee q-r-s)] \vee p-q-rs \vee \{p[q(r-s \vee -r-s) \vee -rs]\}$$

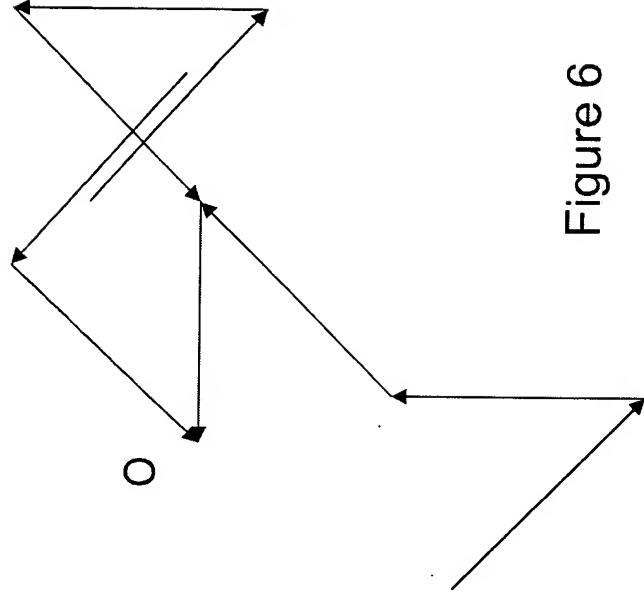


Figure 6

### Step 5

$[-p(qr-s \vee q-r-s)] \vee p-q-rs \vee \{p[q(r-s \vee -r-s \vee -rs)]\}$

Repeat Steps 2 and 3 for  $q$ ,  $-q$  couple.

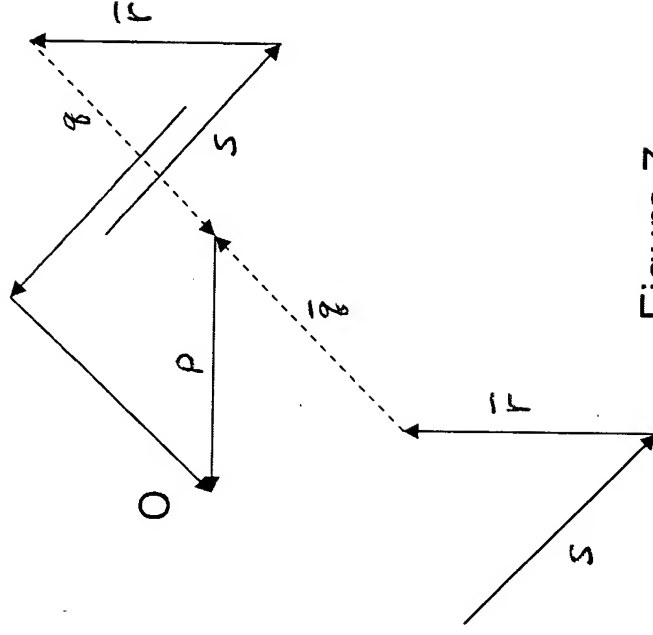


Figure 7

Diagram 7

$$[-p(qr-s \vee q-r-s)] \vee p-q-rs \vee \{p[q(r-s \vee -r-s) \vee -rs]\}$$

Resulting simplified logical expression is:

$$S^* = q-s \vee p-rs$$

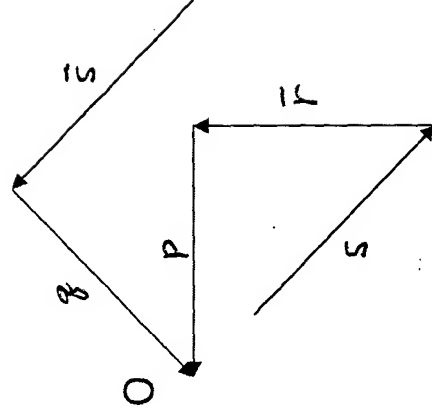


Figure 8



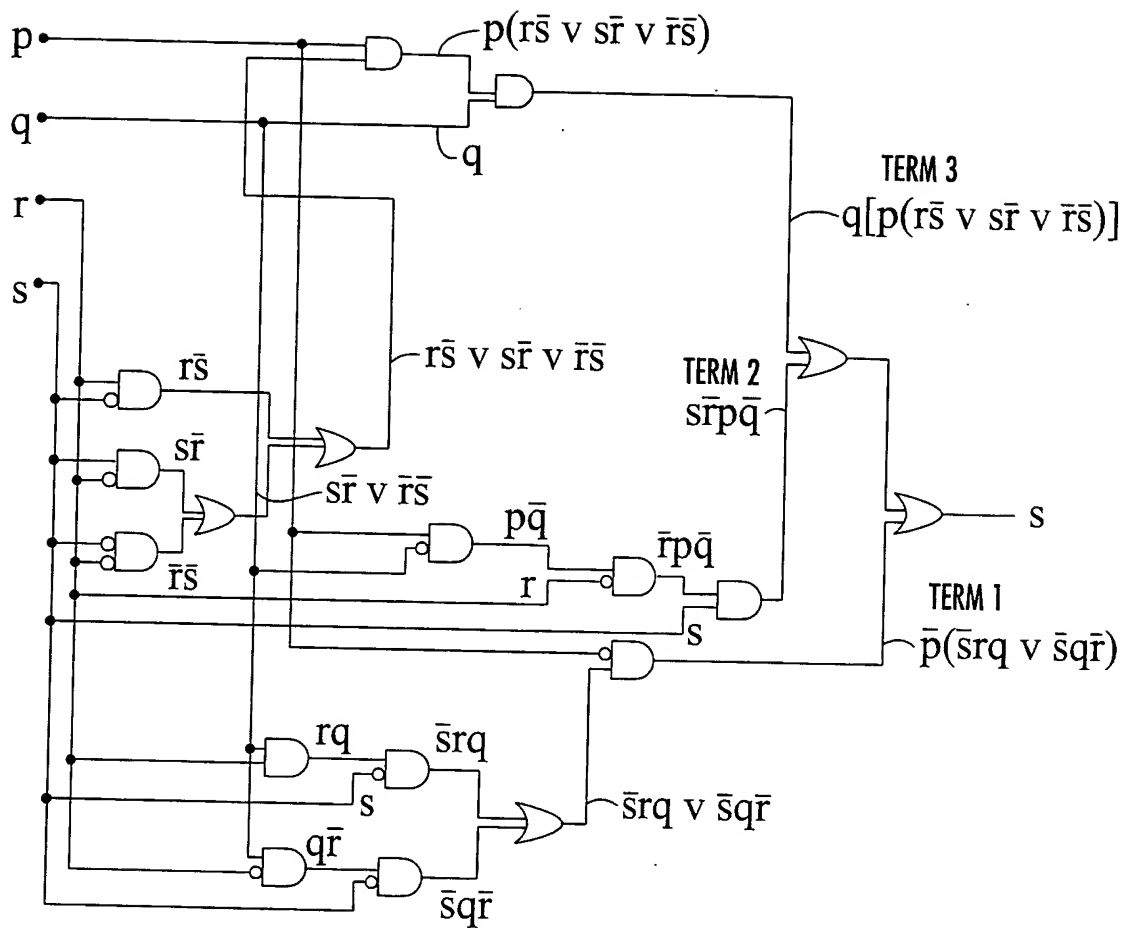
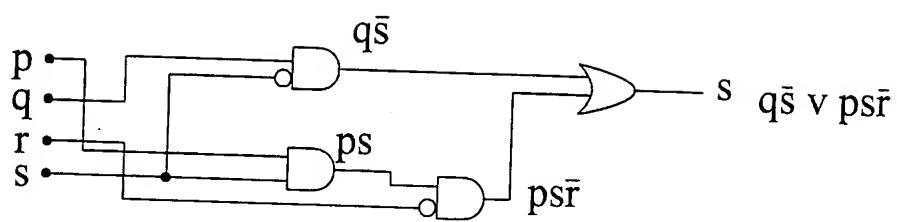


FIG. 9



**FIG. 10**